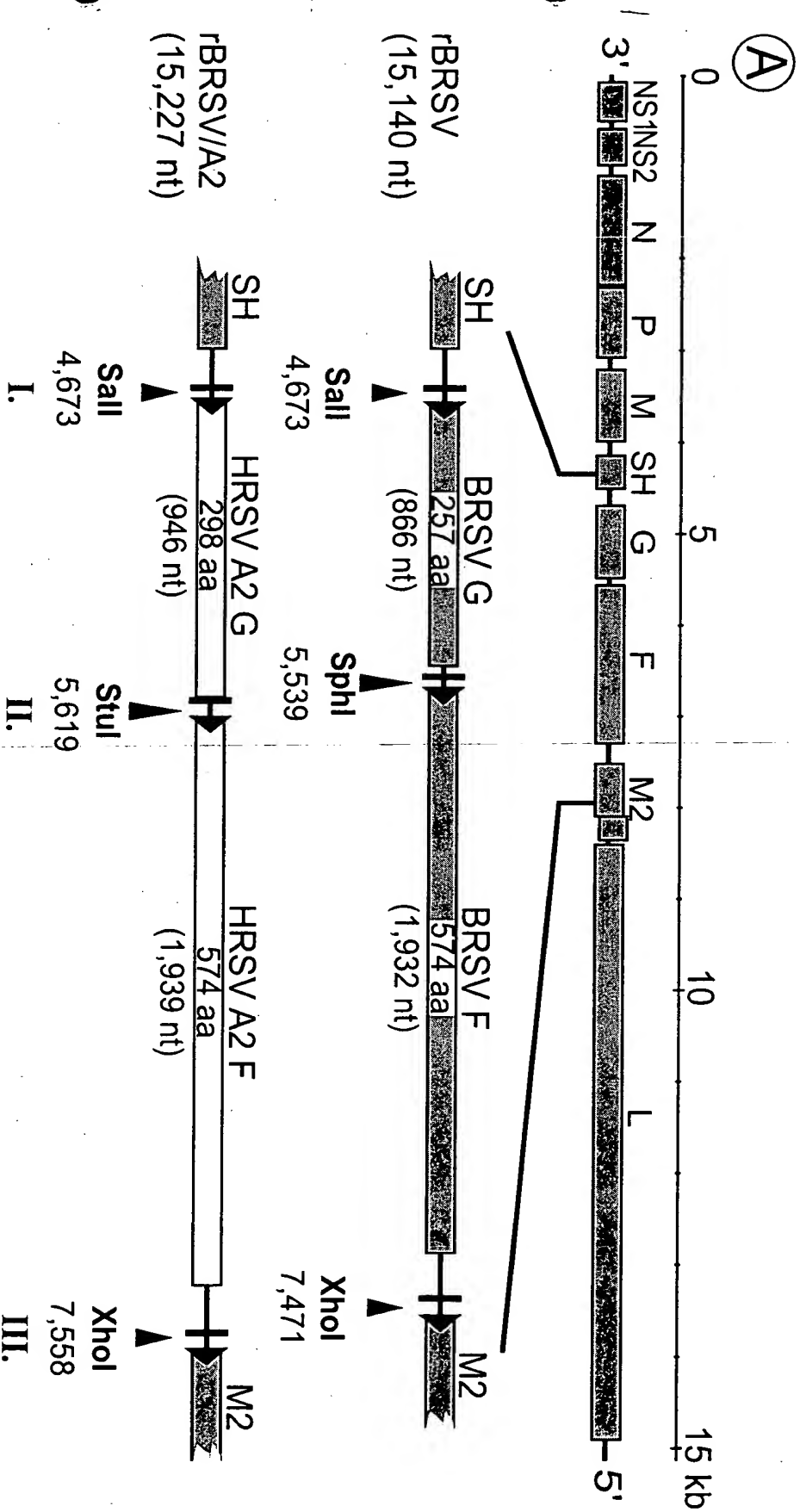


FIG. 1A

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(B)

FIG. 1B

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I. SH/G intergenic region

5' 3'  
ATue51908 4640 AGTAAATTTAACTTAAATGCTTATGTTACATACAGATG.....TTGGGCAATTA CAAGTATGTCCACCATACC 4719  
TBRSV 4640 AGTAAATTTAACTTAAATGCTTATGTTACATACAGATG.....TTGGGCAATTA CAAGTATGTCCACCATACC 4719  
TBRSV/A2 4640 AGTAAATTTAACTTAAATGCTTATGTTACATACAGATG.....TTGGGCAATTA CAAGTATGTCCACCATACC 4709  
HRSV A2 4616 AGTAAATTTAACTTAACTAGTCATACAACTGAACCTAGCATATCAAGACTAACAATACATTTGGGCAATTA CAAGTATGTCCACCATACC 4702  
SH gene end Salt g gene start  
signal g orf

II. G/F intergenic region

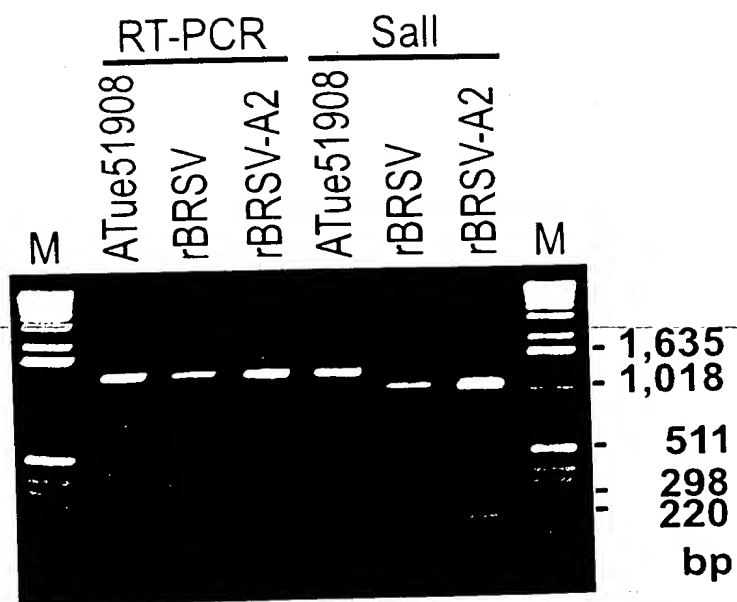
5' 3'  
ATue51908 5517 AGTAAATTTAACTTAACTGATAT.....GTATAATTCTACTAATTTAAACTTGGGCAATTAAGGATGCCGACA 5578  
TBRSV 5517 AGTAAATTTAACTTAACTGATAT.....GTATAATTCTACTAATTTAAACTTGGGCAATTAAGGATGCCGACA 5578  
TBRSV/A2 5590 AGTAAATTTAACTTAACTGATAT.....GTATAATTCTACTAATTTAAACTTGGGCAATTAAGGATGCCGACA 5676  
HRSV A2 5583 AGTAAATTTAACTTAACTGATAT.....GTATAATTCTACTAATTTAAACTTGGGCAATTAAGGATGCCGACA 5669  
G gene end Salt SphI F gene start  
signal F orf

III. F/M2 intergenic region

5' 3'  
ATue51908 7436 CCATGTTGATGTTTAAATTTATTTATTTAGTCTCAAGAATAAATTTATTTAAACAACCAATCATTCAAAAAGATGGGCAAT 7522  
TBRSV 7436 CCATGTTGATGTTTAAATTTATTTATTTAGTCTGAGCAATAAATGCAATTAACAACCAATCATTCAAAAAGATGGGCAAT 7522  
TBRSV/A2 7535 CCTAGTTTATGTTTAAATTTATTTATTTAGTCTGAGCAATAAATGCAATTAACAACCAATCATTCAAAAAGATGGGCAAT 7609  
HRSV A2 7529 CCTAGTTTATGTTTAAATTTATTTATTTAGTCTGAGCAATAAATGCAATTAACAACCAATCATTCAAAAAGATGGGCAAT 7605  
F noncod. F gene end XhoI ClaI M2 gene start  
signal signal

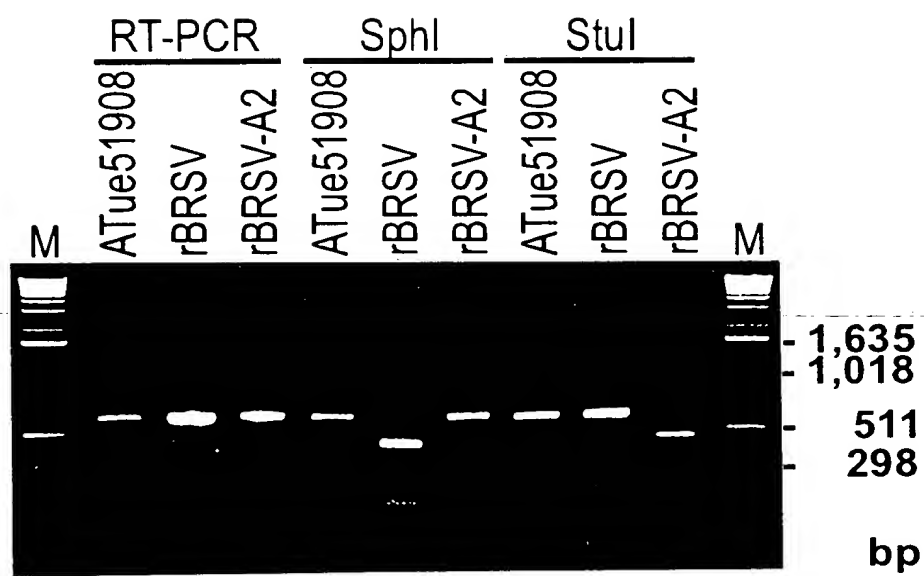
09602212 062300

Fig. 2A



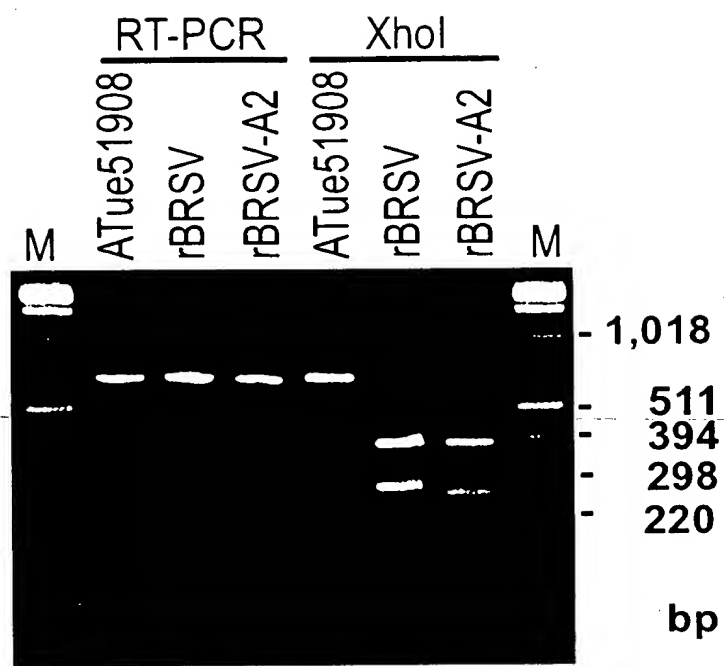
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Fig. 2B



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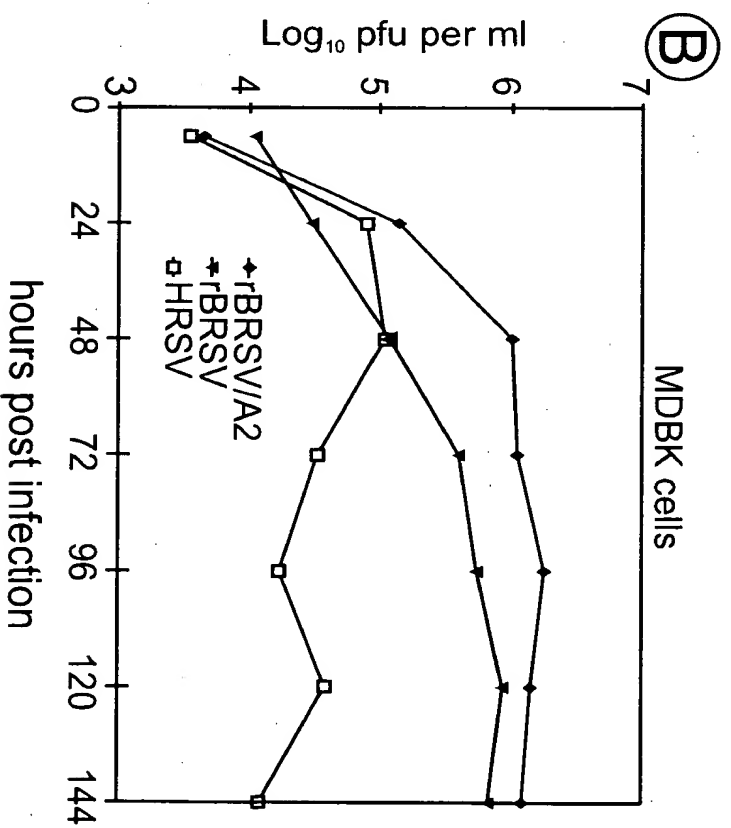
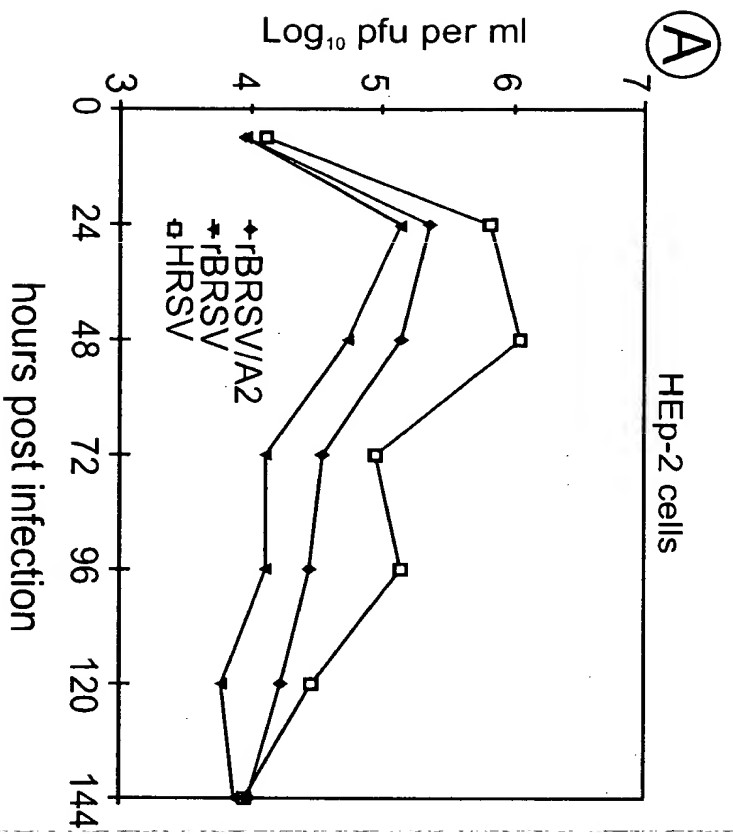
Fig. 2C



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Fig. 3

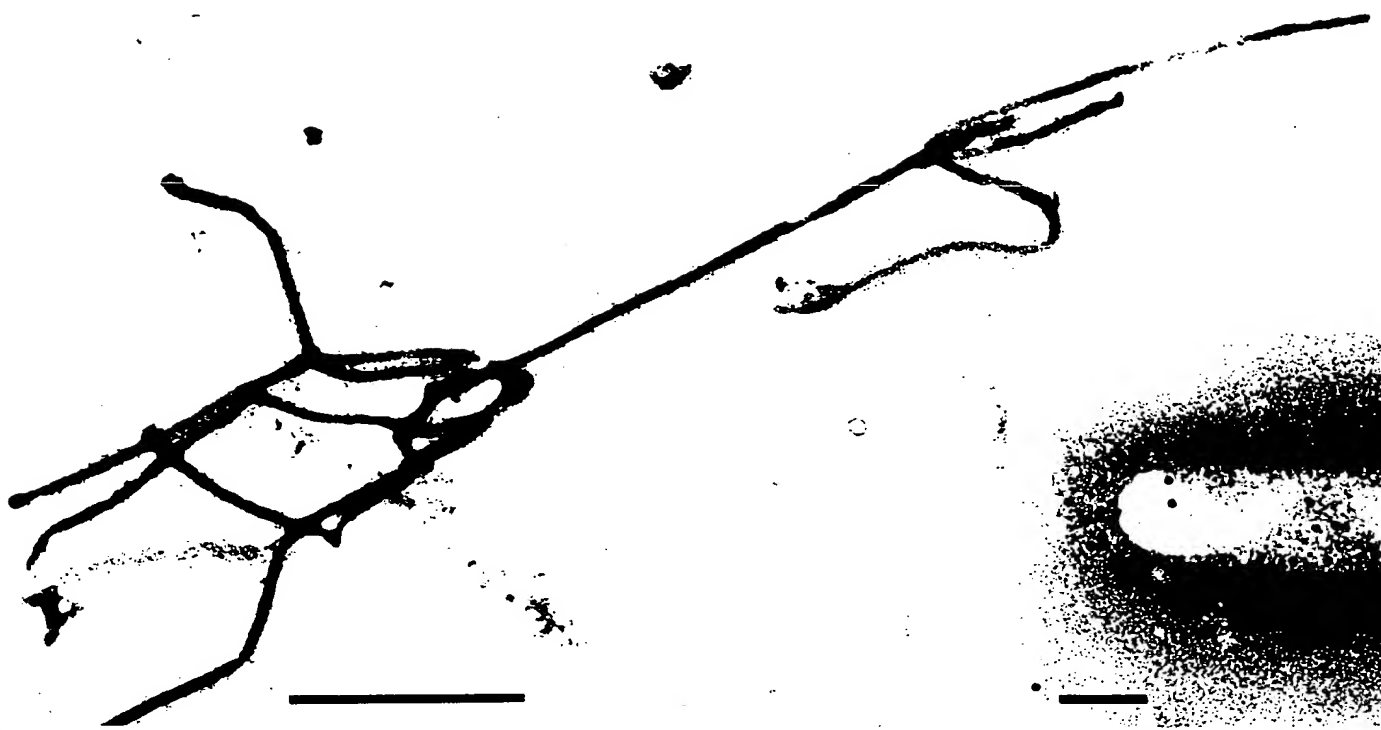
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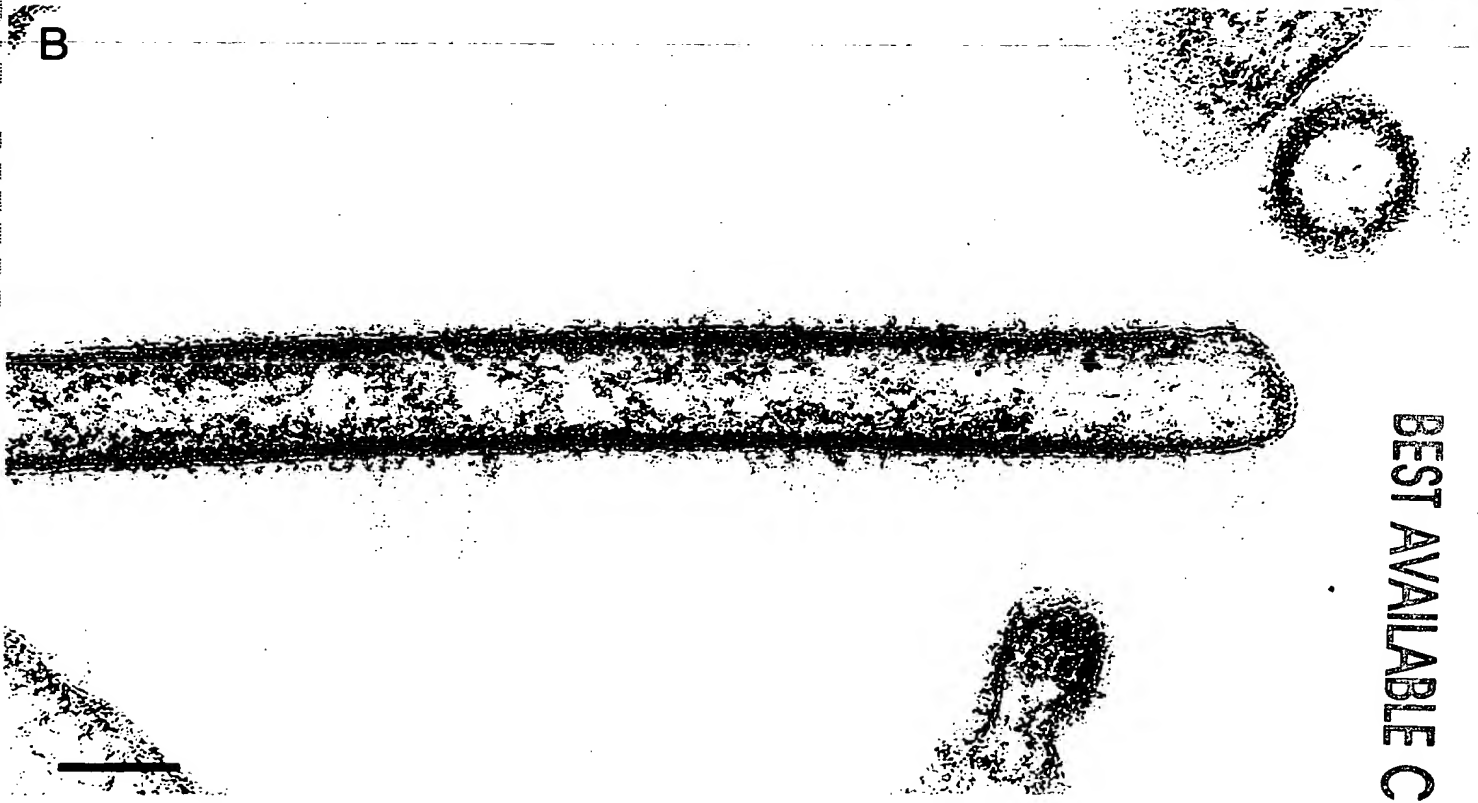
09602212, 062300

Fig. 4

A



B



09602212-062300

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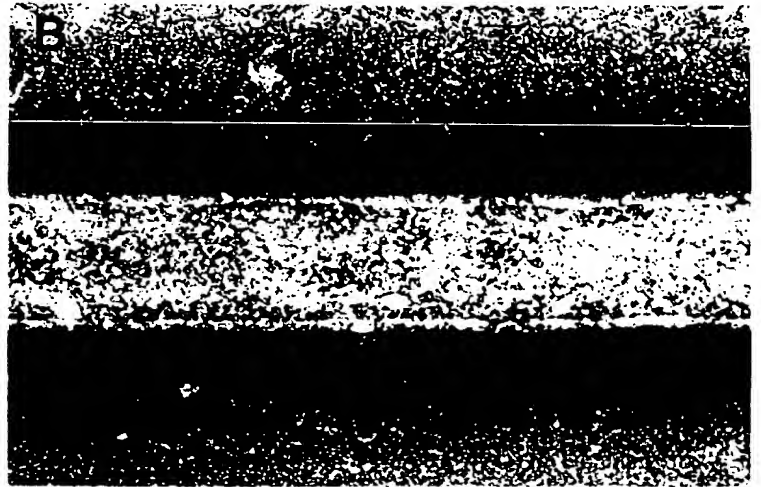
**Fig. 5**

**BEST AVAILABLE COPY**

**A**



23



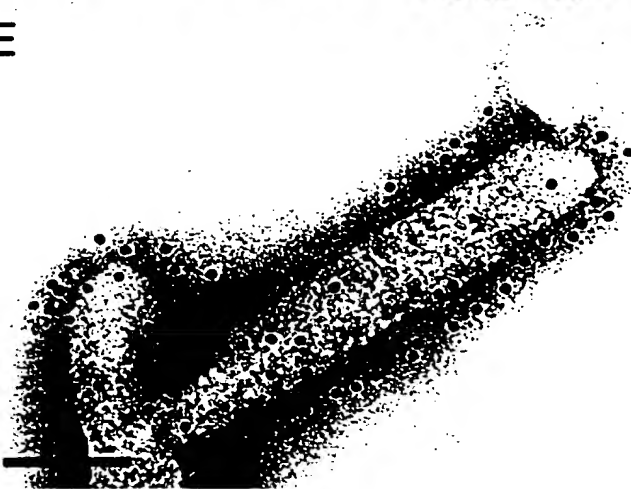
D



C



# E



F

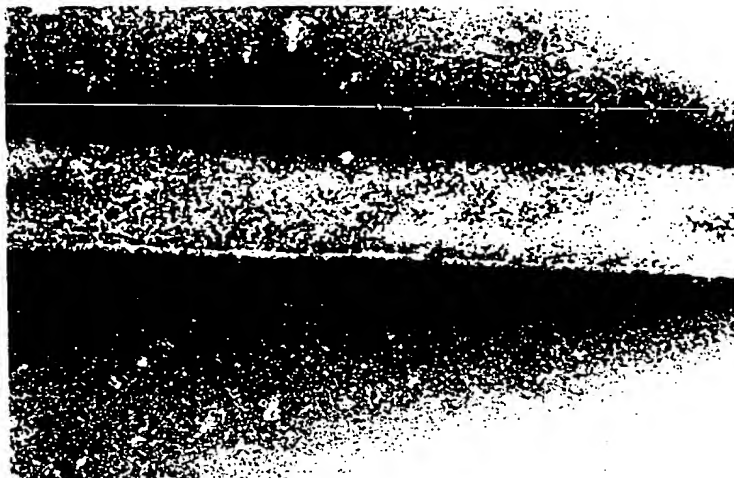




Fig. 6

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A



C



D



E

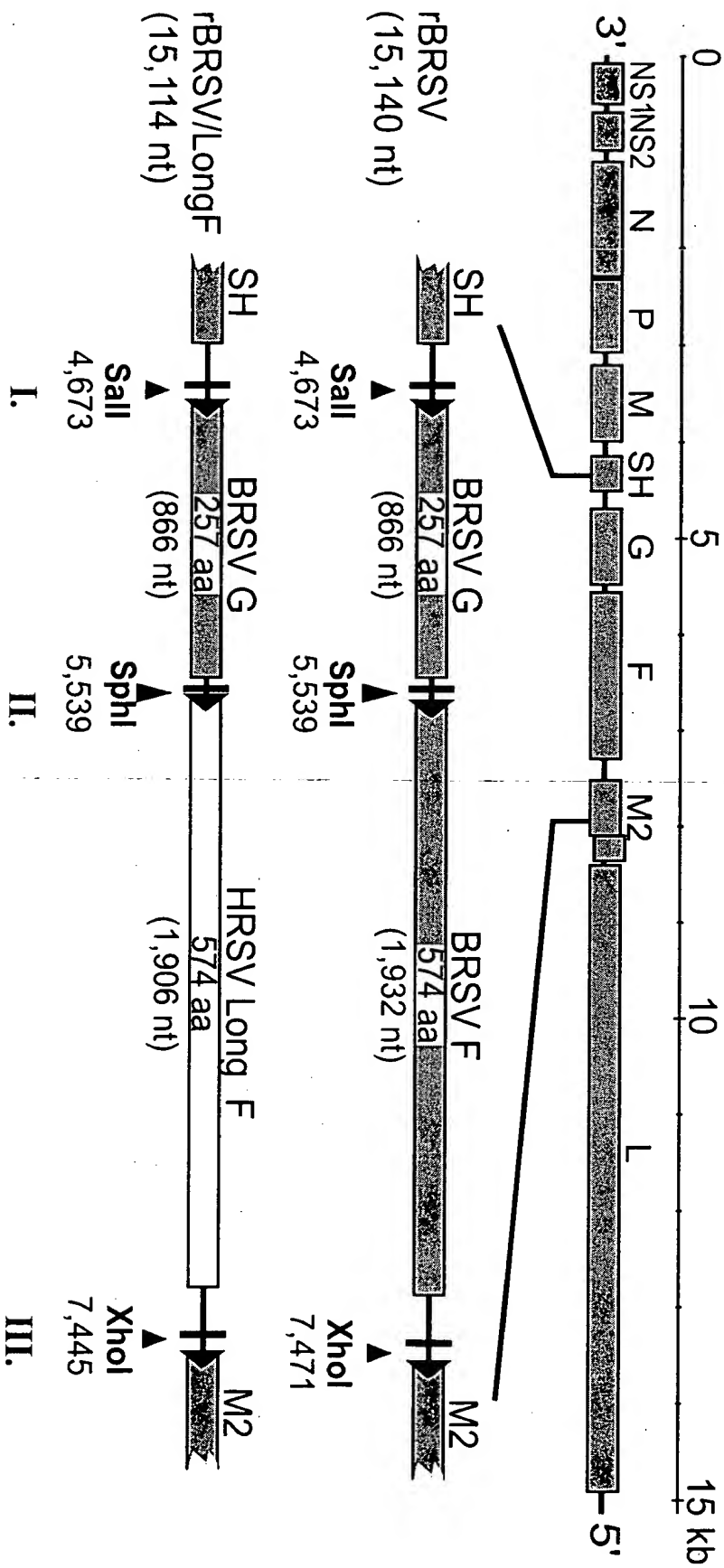


F



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Fig. 7A



## I. SH/G intergenic region

5' 3'  
ATu 51908 4640 AGTTATTTTAAAAATTAAACTTAAAAATGCTTTATGCTTACATACAGATGTTGGGGCAAAATACAAAGTATGTCCAAACCATAACC 4719  
rBSRV 4640 AGTTATTTTAAAAATTAAACTTAAAAATGCTTTATGCTGACACATACAGATGTTGGGGCAAAATACAAAGTATGTCCAAACCATAACC 4719  
rBSRV/LongF 4640 AGTTATTTTAAAAATTAAACTTAAAAATGCTTTATGCTGACACATACAGATGTTGGGGCAAAATACAAAGTATGTCCAAACCATAACC 4719  
SH gene end SalI G gene start  
signal signal

## II. G/F intergenic region

5' 3'  
ATu 51908 5517 AGTTATTTTAAAAAGATATGTATATTCACCTAATTAAACCTGGGGCAAAATTAAGCATGGCGACA 5578  
rBSRV 5517 AGTTATTTTAAAAAGATATGCGCTTCACCTAATTAAACCTGGGGCAAAATTAAGCATGGCGACA 5578  
rBSRV/LongF 5517 AGTTATTTTAAAAAGATATGCGCTTCACCTAATTAAACCTGGGGCAAAATTAAGCATGGCGACA 5578  
G gene end SphI F gene start  
signal signal

## III. F/M2 intergenic region

5' 3'  
ATu 51908 7436 CCATGTGTGATAGTTTATATATAATATATATTAAGTCTCAAGAATAAAATATTTAACAACCAATCATTCAAAAAGATGGGGCAAAAT 7522  
rBSRV 7436 CCATGTGTGATAGTTTATATATAATATATATTAAGTCTGAGAGAAATAAAATTCGATTAAACAACCAATCATTCAAAAAGATGGGGCAAAAT 7522  
rBSRV/LongF 7422 CCTAGTTTATAGTTTATATATAATATATTAAGTCTGAGAGAAATAAAATTCGATTAAACAACCAATCATTCAAAAAGATGGGGCAAAAT 7496  
F noncod. F gene end XhoI ClaI M2 g ne start  
signal signal

FIG. 8

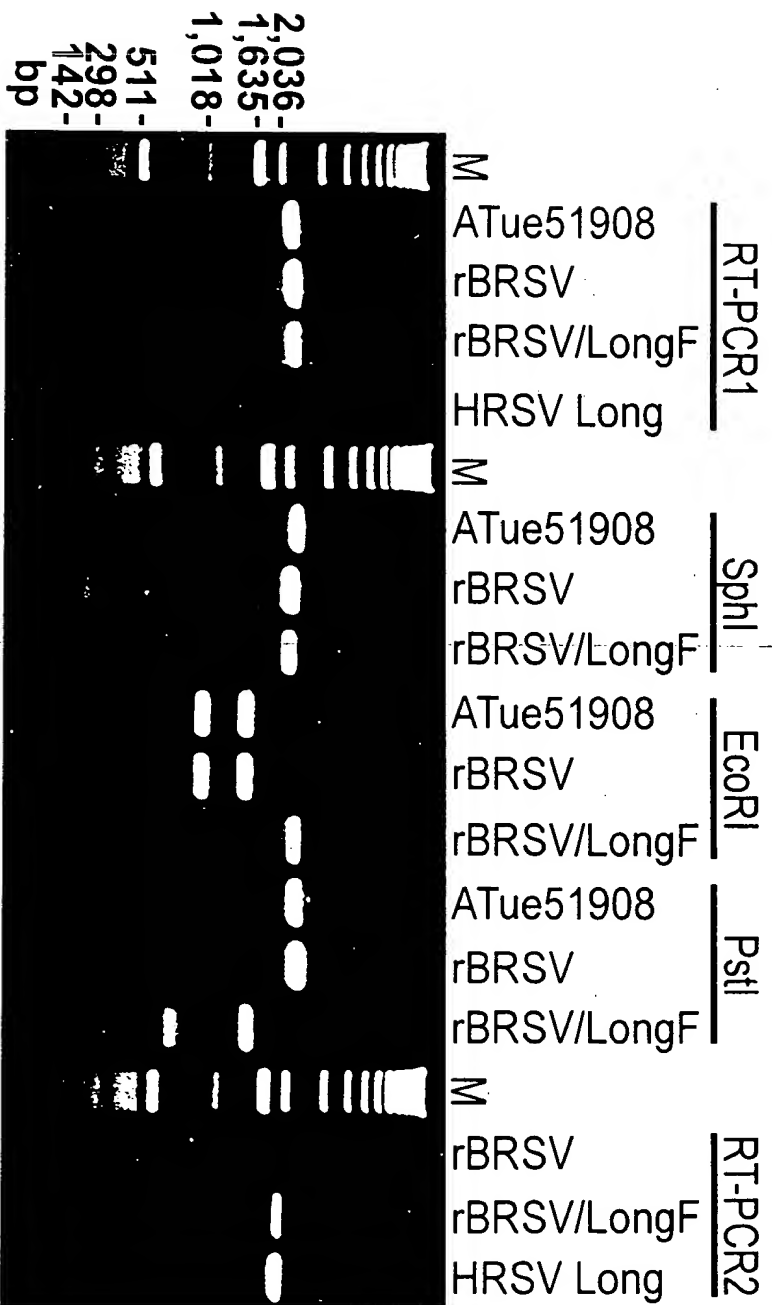


Fig. 9

A BEST AVAILABLE COPY

B



D

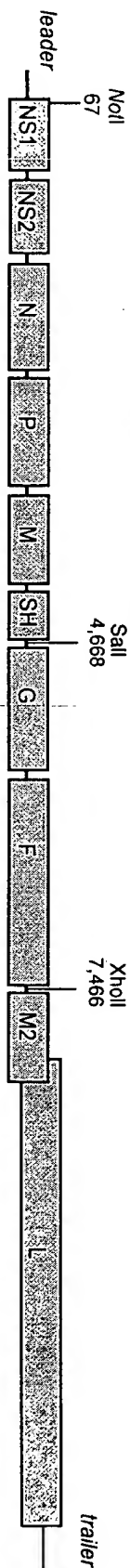


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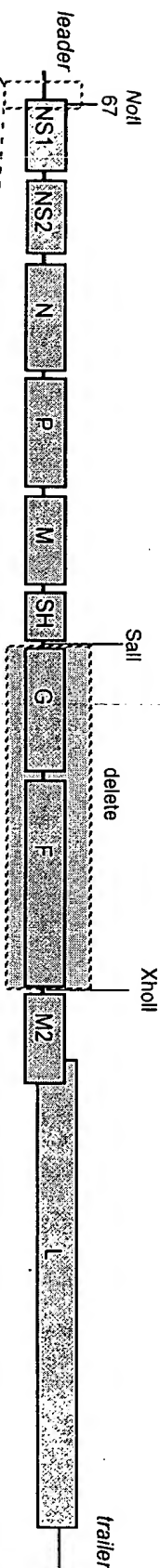
A. rBRSV

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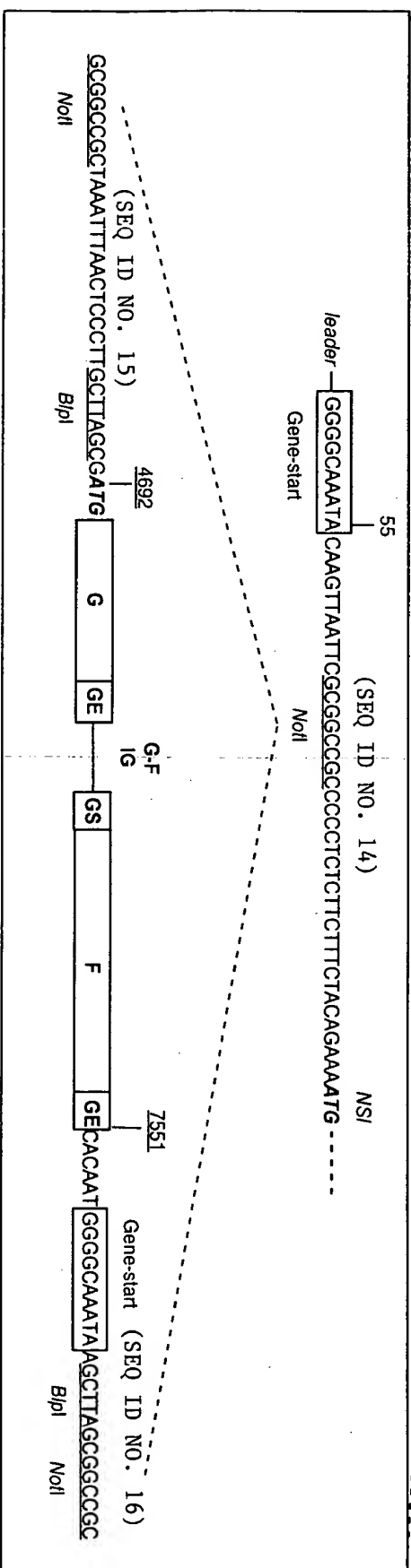
Figure 10



B. Modifications to rBRSV to create rBRSV/A2-G1F2

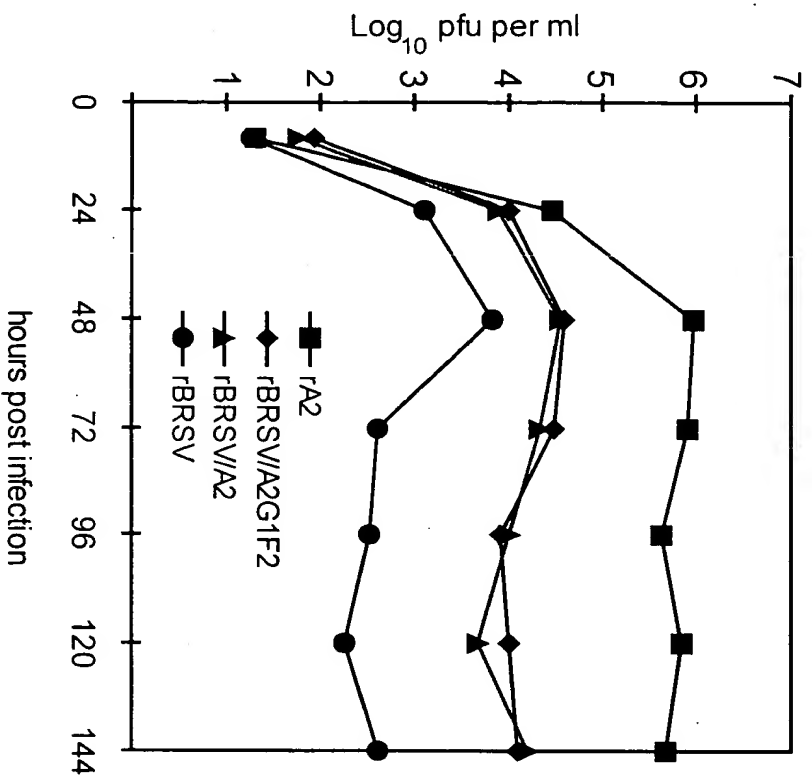


C. rBRSV/A2-G1F2

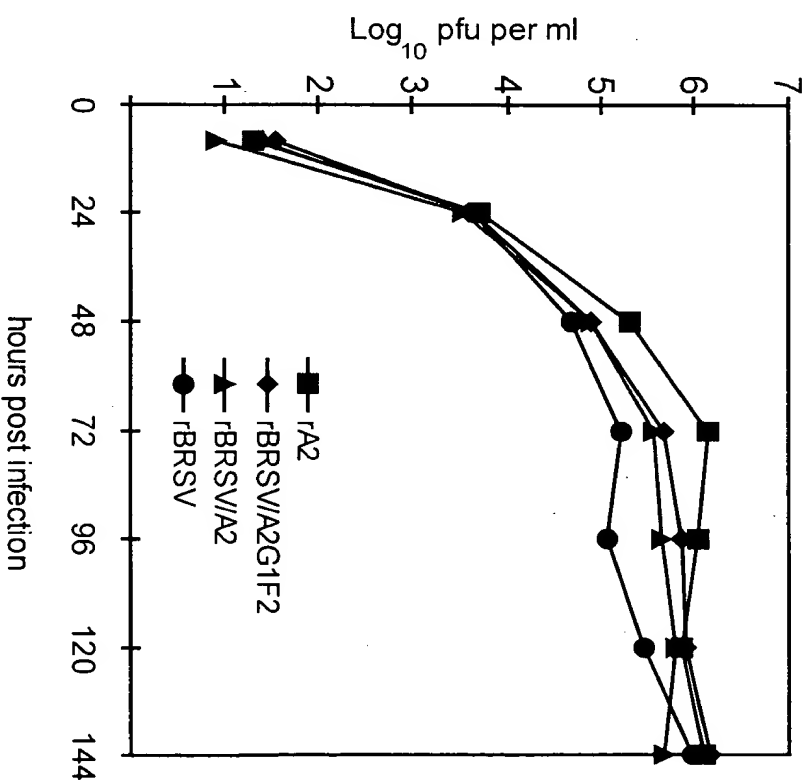


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Multicycle growth of rA2,  
rBRSV/A2G1F2, rBRSV/A2, and rBRSV  
in HEP-2 cells

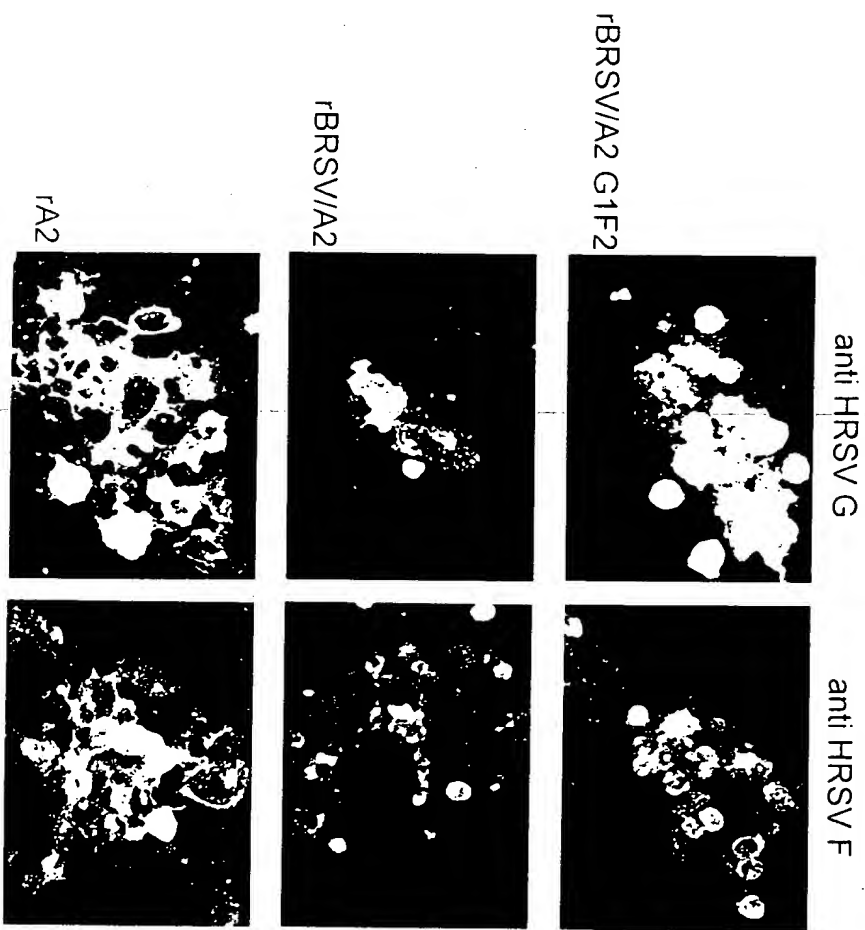


Multicycle growth of rA2, rBRSV/A2G1F2,  
rBRSV/A2, and rBRSV  
in MDBK cells



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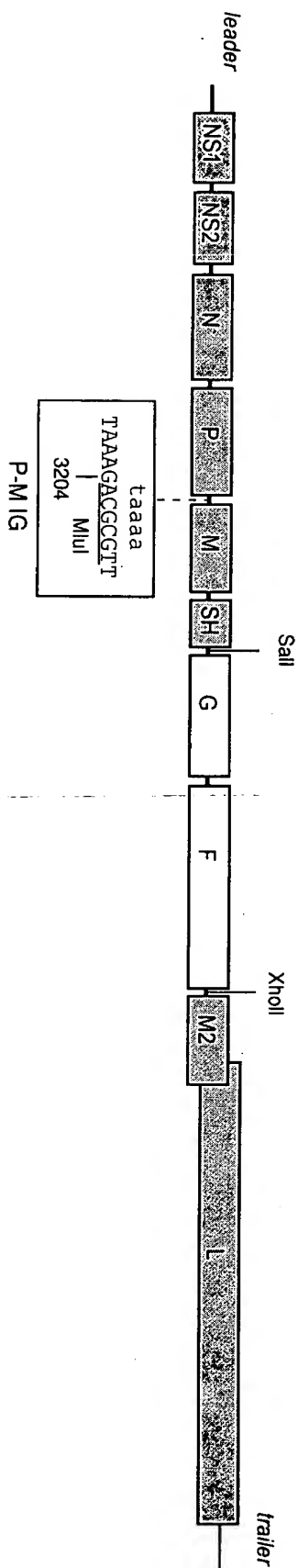
Figure 12



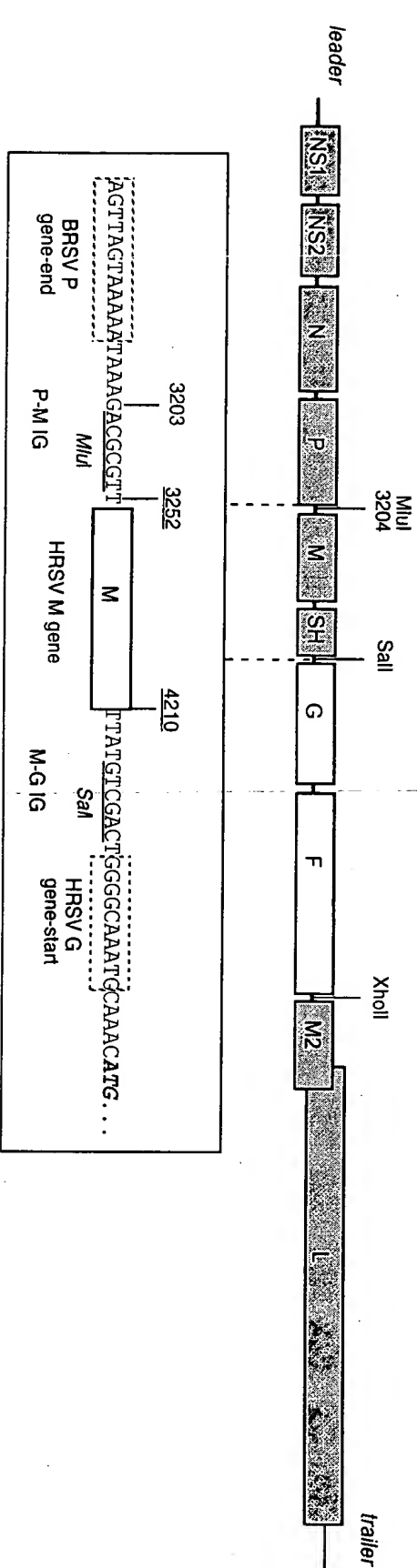
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A. Insert *Mlu*I site into rBRSV/A2



B. Replace BRSV M and SH genes with HRSV M gene to create rBRSV/A2-MGF



C. Structure of rBRSV/A2-MGF

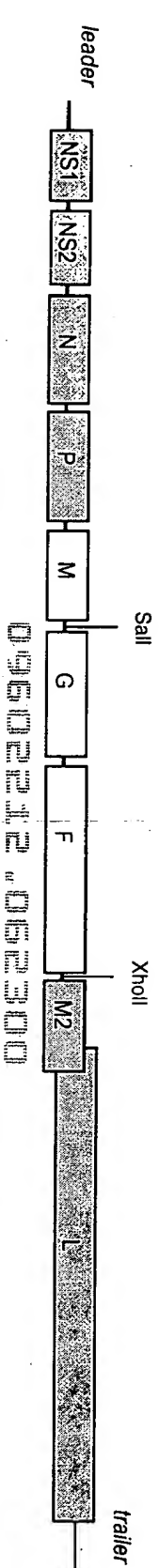


Figure 13

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